
PRESCHOOL EXIT ASSESSMENT PROJECT

2004-2005

REPORT OF FINDINGS

Report Prepared for:

**Missouri Department of Elementary and Secondary Education
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PRESCHOOL EXIT ASSESSMENT PROJECT

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REPORT OF FINDINGS

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PRESCHOOL EXIT ASSESSMENT PROJECT REPORT OF FINDINGS—2004-2005

The Missouri Preschool Assessment Project began during the 1998-1999 school year as an effort to gather information about the school readiness of children as they exit preschools primarily funded by Title I of ESEA and the Missouri Preschool Program (MPP). The study, coordinated by the Project Construct National Center, was conducted by Research & Training Associates, Inc., of Overland Park, Kansas.

Preschool teachers received training in using a *School Entry Profile* to observe and rate their students' preparation for kindergarten. The instrument consists of 65 items that reflect important entry-level skills, knowledge, behaviors, and dispositions in seven areas of development. All teachers at publicly funded preschools take part. The number of children, public schools, and private providers that have participated in the project has steadily increased (see Table 1).

**Table 1. Number of Preschoolers and Schools Participating
in the Preschool Exit Assessment Project, 1998-1999 Through 2004-2005**

	Preschoolers	Schools	Public Schools	Private Providers
1998-1999	4,839	220		
1999-2000	5,956	300		
2000-2001	7,059	335		
2001-2002	7,500	360		
2002-2003	8,034	394	364	30
2003-2004	8,683	423	363	60
2004-2005	10,701	565	390	175

During 2004-2005, preschool teachers from approximately 390 public schools and 175 private providers assessed 10,701 exiting preschoolers. This report provides results of the seventh year of the study.

INSTRUMENTATION

The *School Entry Profile*¹ is built on prior instrumentation efforts and has been used to assess the skills of kindergartners entering publicly funded schools in Missouri. Aided by an expert panel of early childhood specialists, early childhood educators, kindergarten teachers, and DESE

¹ See the *Student Observation Record* in Pfannenstiel, J.C. (1997). *Kindergarten learning environments and student achievement: A study of constructivist and traditional teaching approaches*. Overland Park, KS: Research & Training Associates, Inc.

directors of early childhood education and Title I, Research & Training Associates designed the instrument to reflect areas of performance and assessment appropriate to kindergarten entry. The assessment was not designed and is not utilized to screen children for school entry or assign them to special programs.

The *School Entry Profile* is organized around seven conceptual areas that the expert panel agreed reflect important dimensions of school readiness and which build upon prior psychometric work in observational assessments in kindergarten. Conceptual areas and items measuring these areas were reviewed with the understanding that the skills and behaviors could be reliably observed within the beginning weeks of a school year. The areas identified include symbolic development, communication, mathematical/physical knowledge, working with others, learning to learn, physical development, and conventional knowledge.

Items for the symbolic development, communication, mathematical/physical knowledge, working with others, and learning to learn domains are assessed with a three-point scale: *almost always*, *occasionally/sometimes*, and *not yet/almost never*. Items comprising the physical development and conventional knowledge domains are scored *yes* and *no*.

Sixty-five items were either obtained from a previously developed instrument or were newly developed to reflect important kindergarten entry-level skills, knowledge, behaviors, or dispositions (see Table 7 in Appendix for scales and scale items). It must be noted, however, that items do not measure the entirety of what should be taught or assessed in kindergarten.

Similar to prior year results for the exiting preschoolers, the psychometric properties of the scales yielded alpha coefficient reliabilities for the symbolic development, communication, mathematical/physical knowledge, working with others, and learning to learn scales that meet or exceed .85, greatly exceeding the .70 criterion generally accepted for reliability (see Tables 1-6 in Appendix). The conventional knowledge scale demonstrated a slightly lower but acceptable .73 reliability coefficient. The physical development items did not form a scale; thus, the five items are reported as separate variables.

In addition, preschool teachers provided information on preschoolers' age (in months), racial/ethnic background, gender, eligibility for free or reduced-price lunch, length of preschool attendance (less than one year, one year, or two years), and whether preschoolers received special education or Title I services.

TRAINING FOR PRESCHOOL TEACHERS

All teachers at publicly funded preschools were required to attend a one-day training session on observation-based techniques designed to assess children's skills, knowledge, and social development. The objectives of the training sessions include the following:

- ❑ To gain awareness of the importance of the Preschool Assessment Project within the broader scope of the state action plan to achieve the goal of ensuring that all students enter kindergarten ready to be successful in school.

- " To understand that the purpose of the Preschool Assessment Project is to collect information to inform preschool practices and to respond to the accountability requirement for the evaluation of preschool programs funded under Title I.
- " To recognize that the *School Entry Profile* consists of observations of routine activities that occur in the preschool classroom.
- " To ensure that preschool teachers are valid and reliable administrators of the *School Entry Profile*.

To maintain consistency in rating times for all exiting preschoolers, teachers were asked to rate all children on one domain at a time. The recommended order of ratings asked teachers to begin with the physical development domain because it is easy to observe.

STATE- AND FEDERALLY-FUNDED PRESCHOOL POPULATION

Preschools represented in the study in the 2004-2005 school year were operated in approximately 390 public schools and by 175 MPP providers, some private and some public schools. Approximately two-thirds of preschoolers attended schools funded by Title I or Title I and Early Childhood Special Education (ECSE), 24% were funded by MPP only or MPP and ECSE, and 9% were funded by a combination of Title I and MPP (see Table 2).

Table 2. Percentage Distribution of Sources of Funding for Publicly Funded Preschools

Title I only	42
Title I and ECSE	24
Title I and MPP	9
MPP only	22
MPP and ECSE	2
	(10,701)

The average age of exiting preschoolers is 5.6 years and ranges from 4 to 7 years. A somewhat higher percentage of males (56%) than females (44%) is represented in the preschool population (see Table 3). The racial/ethnic distribution of 20% minority students is somewhat higher than the 13% of minority students in the statewide school population. Fifteen percent of preschoolers are African American.

Table 3. Percentages of Public Preschoolers with Selected Socio-Demographic Characteristics

	2001-2002 (N=7500)	2002-2003 (N=8034)	2003-2004 (N=8683)	2004-2005 (N=10,701)
Racial/Ethnic Characteristics*				
American Indian or Alaska Native	.4	.4	.4	.3
Black or African American	14.6	14.6	15.1	15.1
Native Hawaiian or other Pacific Islander	.3	.4	.3	.3
Asian	1.2	.7	1.1	1.0
Hispanic or Latino	2.7	3.4	3.4	3.5
White	82.5	82.8	79.0	78.9
Percentage indicating any minority	19.0	19.6	20.4	20.2
Gender				
Male	53.3	54.1	54.5	56.3
Female	46.7	45.9	45.5	43.7
Poverty				
Qualifying for free/reduced-price lunch	37.3	38.8	42.8	39.0
Not qualifying for free/reduced-price lunch	45.8	43.5	42.4	43.7
Missing data	16.9	17.7	14.9	17.3
Preschool Participation				
Participated as 3-year-old	26.9	28.3	26.3	33.0
4-year-olds participating <1 yr.	8.4	9.3	10.9	10.4
Special Education				
Percentage in special education	12.3	13.5	14.7	28.3

Preschool teachers indicate that 39% of the preschoolers are eligible for free or reduced-price lunch (snacks) and 44% are ineligible; the teachers either did not know, or did not report, the eligibility of 17% of the preschoolers. Twenty-eight percent of the assessed preschoolers participated in Early Childhood Special Education, a sizable increase from the 12% to 15% of assessed preschoolers who had participated in Early Childhood Special Education in prior years of the study.

Among the exiting preschoolers, one-third are known by teachers to also have participated in preschool as a 3-year-old. Approximately 10% of the exiting preschoolers participated for less than one year.

*Percentages total to more than 100 due to multiple racial/ethnic identities.

TEACHER ASSESSMENTS OF PRESCHOOLERS

Preschool teachers assessed children on 65 items in domains of physical development, symbolic development, communication, mathematical/physical knowledge, working with others, learning to learn, and conventional knowledge. Percentage distributions for each item by domain are contained in Table 7 in Appendix. Complete scale scores for each of the six scales were obtained for 96% to 99% of the exiting preschoolers.

Teachers assessed each child's physical development on five indicators with a simple *yes/no* response format. Almost all of the children (99%) were described as physically active and 98% demonstrated gross motor skills (e.g., running, jumping, climbing stairs, or skipping); 94% demonstrated fine motor skills (e.g., control of scissors or pencil) at preschool exit. This compares favorably with 82% of the children statewide who demonstrated fine motor skills at kindergarten entry.² Preschool teachers indicated that almost all of the children (99%) appeared to be healthy and practice personal hygiene (97%).

Teacher assessments of children's performance on the six scale domains are presented in Table 4. Consistent with prior year data reported, children participating in Early Childhood Special Education are excluded from this table. Sixty-two percent of exiting preschoolers score at the ceiling in symbolic development, 48% score at the ceiling in mathematical/physical knowledge, 51% score at the ceiling on working with others, and 51% score at the ceiling in learning to learn; this compares favorably with the fewer than 30% of entering kindergartners in 2004 who scored at the ceiling on these scales (see Table 5). Forty-two percent of exiting preschoolers and 41% of fall 2004 entering kindergartners score at the ceiling on conventional knowledge (see Tables 4 and 6). Twenty-four percent of exiting preschoolers, compared with 18% of entering kindergartners, score at the ceiling on the lengthy 19-item communication scale.

Table 4. Descriptive Statistics for Scale Scores for Exiting Public Preschoolers*
2004-2005

	Mean 2001-2002	Mean 2002-2003	Mean 2003-2004	Mean	s.d.	Range	% at Ceiling	N
Symbolic Development	19.5	19.6	19.8	19.8	2.1	7-21	62	7702
Communication	46.7	47.5	47.8	48.2	6.4	18-54	24	7534
Mathematical/ Physical Knowledge	27.0	27.0	27.5	27.6	3.7	10-30	48	7616
Working with Others	18.9	19.1	19.2	19.3	2.4	7-21	51	7649
Learning to Learn	25.0	25.2	25.4	25.4	2.5	9-27	51	7681
Conventional Knowledge	9.8	9.9	9.9	9.9	1.3	1-11	42	7525

² See Pfannenstiel, J. (2005). *School entry assessment project: Report of findings*. Jefferson City, MO: Department of Elementary and Secondary Education.

* Excluding special needs children.

On average, students exiting publicly funded preschools in 2005 scored significantly and meaningfully higher than the average entering kindergartner on most scales (see Tables 4 and 5). Exiting preschoolers in 2005 scored higher on symbolic development, communication, mathematical/physical knowledge, working with others, and learning to learn scales ($p < .0001$) than did entering kindergartners who had attended preschool prior to school entry (see Tables 4 and 6). They scored similarly on conventional knowledge.

Table 5. Descriptive Statistics for Scale Scores for Fall 2004 Entering Kindergartners*

	Mean	s.d.	Range	% at Ceiling	N
Symbolic Development	17.7	3.6	7-21	35	4641
Communication	42.3	9.8	18-54	15	4500
Mathematical/Physical Knowledge	24.0	6.0	10-30	27	4572
Working with Others	17.2	3.7	7-21	29	4605
Learning to Learn	22.6	4.5	9-27	29	4626
Conventional Knowledge	9.4	2.0	1-11	35	4489

Table 6. Descriptive Statistics for Scale Scores for Fall 2004 Entering Kindergartners Who Attended Preschool*

	Mean	s.d.	Range	% at Ceiling	N
Symbolic Development	18.1	3.3	7-21	38	2693
Communication	44.1	9.1	18-54	18	2613
Mathematical/Physical Knowledge	25.0	5.5	10-30	32	2657
Working with Others	17.5	3.6	7-21	32	2674
Learning to Learn	23.1	4.3	9-27	31	2682
Conventional Knowledge	9.7	1.6	1-11	41	2612

To investigate whether kindergarten teachers would consider exiting preschoolers *prepared for kindergarten*, mean scores for each rating for preschoolers were compared with the ranges of scores that kindergarten teachers used to delineate *above average*, *average*, or *below average preparation* for entering kindergartners.⁵ On each scale, preschool teachers rate only 5% to 13% of the children as being within the score ranges of *below average preparation*; this compares with 22% of entering public school kindergartners who are rated as having *below average*

* Excluding special needs children.

⁵ Entering kindergartners who were rated *above average* in their preparation for kindergarten score three-quarters of a standard deviation above the average score of 100 on all scales except communications, where they score almost a full standard deviation higher. Children rated of *average preparation* score almost exactly at the mean of 100. The 25% of children who were rated *below average* in their preparation for kindergarten were well below average—in almost all areas, a full standard deviation below average. By any standard of comparison, kindergarten teachers use very stringent criteria for designating children “below average” in their preparation for kindergarten.

preparation by their teachers (see Table 7). Conversely, approximately 63% to 77% of exiting preschoolers are rated within the score ranges of *above average* preparation on the various scale scores. Only 34% of entering kindergartners meet that criterion.

Table 7. Percentage of Exiting 2004-2005 Preschoolers Scoring Within Entering 2004 Kindergarten Ranges in Preparation for Kindergarten*

	Average Summed Scores for Kindergartners in Fall 2004			% of 2005 Preschoolers in K Score Range		
	Above Average Preparation (34%)	Average Preparation (44%)	Below Average Preparation (22%)	Above Average Preparation	Average Preparation	Below Average Preparation
Symbolic Development	19.5	17.5	14.9	77	10	13
Communication	50.3	41.5	30.2	63	29	7
Mathematical/ Physical Knowledge	28.3	24.0	16.6	67	24	9
Working with Others	19.3	17.0	13.8	66	20	13
Learning to Learn	25.6	22.5	17.8	71	22	7
Conventional Knowledge	10.5	9.6	6.9	64	31	5

Demographic and background characteristics of preschoolers were investigated for their relationship to preschool exit performance. Male preschoolers are rated significantly lower than females on all scales ($p < .0001$); overall, males are rated slightly below average and females are rated slightly above average on all domains (see Table 8). The largest difference in mean performance between males and females is on the communication scale; the lowest difference in mean performance is on the conventional knowledge scale.

On all scales, preschoolers of racial/ethnic minority background score significantly lower than nonminority preschoolers ($p < .0001$). The largest differences between minority and nonminority preschoolers are on the communication, mathematical/physical knowledge, and working with others scales (see Table 9).

Preschoolers who are eligible for free or reduced-price lunch score significantly lower than those who are ineligible on all scales ($p < .0001$). The 17% of preschoolers with missing data on eligibility for free or reduced-price lunch score slightly lower on all scales than do preschoolers who are eligible for free or reduced-price lunch (see Table 10).

* Includes special education preschoolers.

Table 8. Means of Raw and Standardized Scale Scores of Exiting Preschoolers by Gender *

	Males			Females		
	Raw	Standardized	(N)	Raw	Standardized	(N)
Symbolic Development	19.6	98.3	(3973)	20.0	102.1	(3728)
Communication	47.1	97.4	(3864)	49.4	103.3	(3669)
Mathematical/Physical Knowledge	27.2	98.4	(3916)	27.9	102.0	(3699)
Working with Others	18.9	98.0	(3944)	19.6	102.6	(3704)
Learning to Learn	25.0	97.8	(3950)	25.8	102.8	(3730)
Conventional Knowledge	9.8	98.5	(3866)	10.1	101.9	(3658)

Table 9. Means of Raw and Standardized Scale Scores of Exiting Preschoolers by Minority Status *

	Minority			Nonminority		
	Raw	Standardized	(N)	Raw	Standardized	(N)
Symbolic Development	19.5	97.7	(1499)	19.9	100.6	(6113)
Communication	46.9	96.9	(1459)	48.5	100.8	(5986)
Mathematical/Physical Knowledge	26.8	96.7	(1483)	27.7	100.8	(6043)
Working with Others	18.8	97.2	(1490)	19.4	100.7	(6068)
Learning to Learn	25.1	97.9	(1495)	25.5	100.5	(6095)
Conventional Knowledge	9.8	97.8	(1453)	10.0	100.6	(5983)

Table 10. Means of Raw and Standardized Scale Scores of Exiting Preschoolers by Eligibility for Free/Reduced-Price Lunch *

	Eligible for Free/ Reduced-Price Lunch			Ineligible for Free/ Reduced-Price Lunch			Missing Data on Eligibility		
	Raw	Standardized	(N)	Raw	Standardized	(N)	Raw	Standardized	(N)
Symbolic Development	19.7	99.8	(3211)	20.0	101.5	(3463)	19.4	96.8	(1028)
Communication	47.5	98.7	(3125)	49.3	102.6	(3401)	46.6	96.4	(1008)
Mathematical/Physical Knowledge	27.1	98.7	(3172)	28.2	102.5	(3436)	26.8	96.5	(1008)
Working with Others	19.1	99.3	(3180)	19.5	101.5	(3454)	19.0	97.9	(1015)
Learning to Learn	25.2	99.1	(3197)	25.7	101.6	(3461)	25.1	98.0	(1023)
Conventional Knowledge	9.8	98.7	(3133)	10.1	102.3	(3397)	9.8	97.1	(995)

* Excluding special education preschoolers

Multiple regression analyses were employed to investigate the predictive power of background characteristics (gender, age, poverty, racial/ethnic minority status) and length of preschool attendance on preschool exit performance. These analyses indicate that controlling for all other predictors, the age of the child, gender, and length of preschool participation are significant predictors of achievement on all scales ($p < .0001$). Similarly, poverty status of the child is a significant negative predictor on all scales ($p < .0001$). Racial/ethnic minority status is a negative predictor on all scales, but the probability level is nonsignificant for the conventional knowledge scale (see Tables 11-16).

While all variables achieved significance as predictor variables, some background characteristics demonstrated more importance as predictors of achievement as measured by the standardized beta coefficients. Gender, age, and poverty status are the most important predictors of communication skills, mathematical/physical knowledge, and conventional knowledge. Gender provides the best predictor of children's ability to work with others and their learning-to-learn skills; male children score lower on these scales.

Despite these significant findings, the amount of variation on each scale accounted for by the combination of background characteristics is small, ranging from 3% for symbolic development to 10% for communication. This indicates that factors other than background characteristics, which are unmeasured by this study, account for the vast majority of variation in performance of exiting preschoolers.

Table 11. Summary of Stepwise Multiple Regression Analysis on Symbolic Development*

Step Variable	<i>B</i>	<i>SE</i>	β	<i>R²Change</i>
Gender	.43	.05	.11	.011
Minority Status	-.38	.06	-.08	.008
Age	.36	.07	.06	.004
Eligibility for Free/Reduced-Price Lunch	-.17	.05	-.04	.002
Length of Preschool Attendance	.11	.05	.03	.001

Constant = 17.28; $df = 6454$

$R^2 = .03$; Adj $R^2 = .02$; $F = 33.84$; $p = < .0001$

* Excluding students identified for pre-K special services.

Table 12. Summary of Stepwise Multiple Regression Analysis on Communication*

Step Variable	<i>B</i>	<i>SE</i>	β	<i>R</i> ² Change
Gender	2.44	.15	.19	.035
Age	3.09	.22	.17	.029
Eligibility for Free/Reduced-Price Lunch	-1.57	.16	-.13	.022
Minority Status	-1.17	.20	-.07	.005
Length of Preschool Attendance	.82	.15	.07	.004

Constant = 27.54; df = 6311

$R^2 = .10$; Adj $R^2 = .09$; $F = 133.11$; $p = < .0001$

Table 13. Summary of Stepwise Multiple Regression Analysis on Mathematical/Physical Knowledge*

Step Variable	<i>B</i>	<i>SE</i>	β	<i>R</i> ² Change
Age	1.71	.12	.17	.027
Eligibility for Free/Reduced-Price Lunch	-.97	.09	-.13	.024
Gender	.76	.09	.11	.011
Minority Status	-.67	.11	-.07	.005
Length of Preschool Attendance	.39	.08	.06	.003

Constant = 17.09; df = 6394

$R^2 = .07$; Adj $R^2 = .07$; $F = 96.38$; $p = < .0001$

Table 14. Summary of Stepwise Multiple Regression Analysis on Working With Others*

Step Variable	<i>B</i>	<i>SE</i>	β	<i>R</i> ² Change
Gender	.68	.06	.14	.019
Minority Status	-.44	.08	-.07	.008
Age	.51	.08	.07	.005
Eligibility for Free/Reduced-Price Lunch	-.30	.06	-.06	.004
Length of Preschool Attendance	.21	.06	.04	.002

Constant = 15.42; df = 6414

$R^2 = .04$; Adj $R^2 = .04$; $F = 51.45$; $p = < .0001$

* Excluding students identified for pre-K special services.

Table 15. Summary of Stepwise Multiple Regression Analysis on Learning to Learn *

Step Variable	<i>B</i>	<i>SE</i>	β	<i>R</i> ² Change
Gender	.83	.06	.17	.028
Eligibility for Free/Reduced-Price Lunch	-.47	.06	-.10	.013
Age	.70	.08	.10	.010
Minority Status	-.28	.08	-.05	.002
Length of Preschool Attendance	.23	.06	.05	.002

Constant = 20.30; df = 6438

*R*² = .05; Adj *R*² = .05; *F* = 74.57; *p* = < .0001

Table 16. Summary of Stepwise Multiple Regression Analysis on Conventional Knowledge

Step Variable	<i>B</i>	<i>SE</i>	β	<i>R</i> ² Change
Age	.61	.04	.17	.027
Eligibility for Free/Reduced-Price Lunch	-.34	.03	-.14	.019
Gender	.29	.03	.12	.014
Length of Preschool Attendance	.17	.03	.07	.005

Constant = 6.09; df = 6316

*R*² = .06; Adj *R*² = .06; *F* = 109.53; *p* = < .0001

SPECIAL NEEDS PRESCHOOLERS

Approximately 28% of preschoolers in this study are provided special education services, twice the percentage that have been assessed for this study in prior years. Approximately 70% of the preschoolers identified for special education services are male (see Table 17). The large increase in the special needs population assessed for this study includes a large increase in the percentage of minority children, increasing from 13% in the prior year to 21% in 2004-2005. Similar to students in the prior year, approximately 44% qualify for free or reduced-price lunch, but a sizable 28% of the special needs preschoolers have missing data on eligibility.

Table 17. Percentages of Special Needs Preschoolers with Selected Socio-Demographic Characteristics

Percentage Minority	21
Percentage Male	66
Percentage Qualifying for Free/Reduced-Price Lunch	44
Percentage with Missing Free/Reduced-Price Lunch Data	28

Preschoolers identified for special education services at publicly funded preschools score, on average, at standardized scores ranging from 87 to 91, approximately three-fourths of a standard deviation below average (see Table 18). Male special needs children score significantly lower ($p < .0001$) than female special needs children on symbolic development, communication, working with others, and learning to learn (see Table 19). They score slightly lower ($p < .05$) than the female children on mathematical/physical knowledge and score similarly to them on conventional knowledge. Minority special needs children score significantly below nonminority children on all scales (see Table 20). In addition, high-poverty special needs children score significantly lower than nonpoverty special needs students on all scales (see Table 21).

Table 18. Standardized Means for Scale Scores for Exiting Special Needs Preschoolers*

	Mean 2000-01 (N=814)	Mean 2001-02 (N=871)	Mean 2002-03 (N=991)	Mean 2003-04 (N=1178)	Mean 2004-05 s.d.	N
Symbolic Development	94.1	93.1	92.9	93.3	90.2 25.1	2900
Communication	93.1	91.9	92.0	92.4	88.1 21.6	2805
Mathematical/Physical Knowledge	92.7	92.2	92.3	91.9	87.1 23.2	2862
Working with Others	94.0	93.8	94.0	92.8	89.8 22.7	2895
Learning to Learn	93.6	93.2	92.5	91.9	89.6 24.0	2910
Conventional Knowledge	91.3	91.6	90.4	91.1	86.7 26.9	2798

Table 19. Means of Raw and Standardized Scale Scores of Exiting Special Needs Preschoolers by Gender

	Males			Females		
	Raw	Standardized	(N)	Raw	Standardized	(N)
Symbolic Development	18.3	88.9 ¹	(1990)	18.9	93.1	(909)
Communication	42.4	86.5 ¹	(1924)	44.7	91.7	(881)
Mathematical/Physical Knowledge	24.2	86.5 ⁴	(1966)	24.7	88.5	(896)
Working with Others	17.3	88.2 ¹	(1984)	18.2	93.3	(911)
Learning to Learn	23.5	88.1 ¹	(2001)	24.2	92.8	(909)
Conventional Knowledge	8.8	86.2	(1920)	8.9	87.9	(877)

1 = $p < .0001$, 2 = $p < .001$, 3 = $p < .01$, 4 = $p < .05$

Table 20. Means of Raw and Standardized Scale Scores of Exiting Special Needs Preschoolers by Minority Status*

	Minority			Nonminority		
	Raw	Standardized	(N)	Raw	Standardized	(N)
Symbolic Development	18.0	86.9 ²	(609)	18.6	91.1	(2260)
Communication	41.1	83.4 ¹	(587)	43.6	89.3	(2191)
Mathematical/Physical Knowledge	22.9	81.2 ¹	(605)	24.8	88.7	(2228)
Working with Others	16.8	84.9 ¹	(608)	17.8	91.1	(2257)
Learning to Learn	23.1	85.7 ¹	(611)	23.9	90.6	(2269)
Conventional Knowledge	8.4	81.9 ¹	(585)	8.9	88.0	(2183)

1 = $p < .0001$, 2 = $p < .001$, 3 = $p < .01$, 4 = $p < .05$

Table 21. Means of Raw and Standardized Scale Scores of Exiting Special Needs Preschoolers by Eligibility for Free/Reduced-Price Lunch*

	Eligible for Free/Reduced-Price Lunch			Ineligible for Free/Reduced-Price Lunch			Missing Data on Eligibility		
	Raw	Standardized	(N)	Raw	Standardized	(N)	Raw	Standardized	(N)
Symbolic Development	18.2	88.5 ²	(935)	18.8	92.6	(1165)	18.2	88.7	(800)
Communication	41.4	84.1 ¹	(899)	44.7	91.8	(1131)	42.9	87.5	(775)
Mathematical/Physical Knowledge	23.5	83.6 ¹	(920)	25.2	90.6	(1149)	24.1	86.1	(793)
Working with Others	17.2	87.1 ¹	(931)	18.0	92.1	(1169)	17.6	89.6	(795)
Learning to Learn	23.3	86.9 ¹	(934)	24.0	91.5	(1171)	23.7	89.8	(805)
Conventional Knowledge	8.5	82.8 ¹	(901)	9.2	91.4	(1126)	8.6	84.5	(771)

1 = $p < .0001$, 2 = $p < .001$, 3 = $p < .01$, 4 = $p < .05$

SUMMARY

In this seventh year of the Preschool Exit Assessment Project, preschool teachers used the School Entry Profile to assess the kindergarten readiness of more than 10,000 children exiting publicly funded preschools in Missouri. They rated the children who had attended these preschools as better prepared for kindergarten than the average entering kindergartner. The exiting preschoolers scored higher on symbolic development, communication, mathematical/physical knowledge, working with others, and learning to learn scales. They scored similarly to average entering kindergartners on the conventional knowledge scale.

Of the children exiting preschool, males scored lower than females, minority children scored lower than nonminorities, and poor children scored lower than nonpoverty children on all scales of the profile. Multiple regression analyses indicated gender to be the strongest predictor of children's ability to work with others and learn to learn. The analyses also indicated gender, age, and poverty best predict children's communication skills, mathematical/physical knowledge, and conventional knowledge. However, these background characteristics account for only a small variation on each scale, so other factors that weren't measured in this study are responsible for most of the differences in performance.

Approximately 28% of the preschoolers in this study receive special education services, twice the percentage in prior years. When teachers assessed these children, males, minority children, and poor children again received significantly lower ratings than their counterparts on the School Entry Profile.

APPENDIX

Tables

Table 1. Means, Standard Deviations, Cronbach Alpha Reliability Estimates (in parentheses) and Intercorrelations of Scales, 1999-2000

	<u>Mean</u>	<u>sd</u>	1	2	3	4	5	6
1. Symbolic Development	19.2	2.5	(85)					
2. Communication	45.7	7.2	66	(91)				
3. Mathematical/Physical Knowledge	26.5	4.1	59	79	(89)			
4. Working with Others	18.8	2.8	64	64	59	(86)		
5. Learning to Learn	24.9	2.8	65	69	65	77	(85)	
6. Conventional Knowledge	9.7	1.5	40	60	60	42	45	(63)

Note. N=5880.³

Table 2. Means, Standard Deviations, Cronbach Alpha Reliability Estimates (in parentheses) and Intercorrelations of Scales, 2000-2001

	<u>Mean</u>	<u>sd</u>	1	2	3	4	5	6
1. Symbolic Development	19.4	2.4	(84)					
2. Communication	46.4	7.1	64	(91)				
3. Mathematical/Physical Knowledge	26.9	4.0	59	81	(89)			
4. Working with Others	19.0	2.7	63	62	59	(86)		
5. Learning to Learn	25.1	2.8	65	70	68	78	(84)	
6. Conventional Knowledge	9.7	1.5	40	61	63	42	49	(64)

Note. N=7009.

³ N's provided are the minimum N for any scale.

Table 3. Means, Standard Deviations, Cronbach Alpha Raw Reliability Estimates (in parentheses) and Intercorrelations of Scales, 2001-2002

	<u>Mean</u>	<u>sd</u>	1	2	3	4	5	6
1. Symbolic Development	19.5	2.4	(85)					
2. Communication	46.7	7.2	65	(92)				
3. Mathematical/Physical Knowledge	27.0	4.1	62	81	(90)			
4. Working with Others	18.9	2.7	64	65	60	(86)		
5. Learning to Learn	25.0	2.8	65	70	68	77	(84)	
6. Conventional Knowledge	9.8	1.4	41	63	62	42	48	(63)

Note. N=7437.

Table 4. Means, Standard Deviations, Cronbach Alpha Raw Reliability Estimates (in parentheses) and Intercorrelations of Scales, 2002-2003

	<u>Mean</u>	<u>sd</u>	1	2	3	4	5	6
1. Symbolic Development	19.5	2.4	(86)					
2. Communication	47.1	7.0	66	(92)				
3. Mathematical/Physical Knowledge	27.2	4.0	63	81	(91)			
4. Working with Others	18.9	2.7	63	65	62	(87)		
5. Learning to Learn	25.1	2.7	64	71	69	77	(85)	
6. Conventional Knowledge	9.8	1.4	41	62	60	40	47	(68)

Note. N=7845.

Table 5. Means, Standard Deviations, Cronbach Alpha Raw Reliability Estimates (in parentheses) and Intercorrelations of Scales, 2003-2004

	<u>Mean</u>	<u>sd</u>	1	2	3	4	5	6
1. Symbolic Development	19.6	2.3	(86)					
2. Communication	47.3	6.9	66	(92)				
3. Mathematical/Physical Knowledge	27.2	4.0	62	82	(91)			
4. Working with Others	19.1	2.7	63	65	60	(87)		
5. Learning to Learn	25.2	2.7	65	69	66	77	(86)	
6. Conventional Knowledge	9.8	1.4	43	63	63	43	48	(69)

Note. N=8624.

Table 6. Means, Standard Deviations, Cronbach Alpha Reliability Estimates (in parentheses) and Intercorrelations of Scales, 2004-05

	<u>Mean</u>	<u>sd</u>	1	2	3	4	5	6
1. Symbolic Development	19.8	2.1	(89)					
2. Communication	48.2	6.4	70	(94)				
3. Mathematical/Physical Knowledge	27.6	3.7	66	85	(93)			
4. Working with Others	19.3	2.4	68	69	66	(89)		
5. Learning to Learn	25.4	2.5	70	73	71	81	(89)	
6. Conventional Knowledge	9.9	1.3	53	71	71	53	57	(77)

Note. N= 10,626

Table 7. Percentage Distribution of Items on the Preschool Assessment for Six Years

	2001-2002				2002-2003				2003-2004				2004-2005			
	Almost Always	Sometimes	Not Yet/ Almost Never	(N)	Almost Always	Sometimes	Not Yet/ Almost Never	(N)	Almost Always	Sometimes	Not Yet/ Almost Never	(N)	Almost Always	Sometimes	Not Yet/ Almost Never	(N)
—Symbolic Development																
1. Takes part in interactive play with others.	88	11	1	(8769)	86	13	1	(7483)	87	13	1	(8022)	87	12	2	10,667
2. Uses play themes.	86	13	1	(8764)	84	15	1	(7483)	85	14	1	(8021)	83	14	3	10,666
3. Represents ideas and feelings through movement.	78	19	3	(8759)	76	21	3	(7473)	75	21	3	(8017)	77	19	4	10,661
4. Creates or responds to music.	81	17	2	(8754)	79	19	2	(7473)	77	20	2	(8017)	80	18	2	10,653
5. Represents ideas through.	84	15	1	(8751)	83	16	1	(7475)	82	16	1	(8012)	83	15	2	10,651
6. Uses art to convey feelings and ideas.	76	21	2	(8758)	74	22	3	(7471)	74	23	3	(8014)	75	21	5	10,658
7. Talks about his or her creations.	81	16	3	(8750)	78	19	3	(7470)	80	18	3	(8013)	79	17	4	10,652
—Communication																
1. Uses language to communicate ideas, feelings, questions, or to solve problems.	83	15	2	(8753)	82	17	2	(7471)	82	17	2	(8012)	81	16	3	10,666
2. Uses language to pretend or create.	85	13	2	(8759)	83	15	2	(7464)	83	15	2	(8014)	83	14	4	10,664
3. Responds to questions.	87	12	1	(8760)	85	14	1	(7470)	85	14	1	(8014)	85	13	1	10,669
4. Follows directions.	80	19	1	(8756)	79	20	1	(7465)	78	21	1	(8008)	79	20	1	10,674
5. Shows interest in books.	87	12	1	(8760)	87	12	1	(7466)	86	13	1	(8017)	87	12	1	10,663
6. Uses picture cues and/or context cues to construct meaning from text.	82	16	2	(8759)	81	16	3	(7466)	81	17	3	(8008)	80	17	4	10,655

	2001-2002				2002-2003				2003-2004				2004-2005			
	Almost Always	Sometimes	Not Yet/ Almost Never	(N)	Almost Always	Sometimes	Not Yet/ Almost Never	(N)	Almost Always	Sometimes	Not Yet/ Almost Never	(N)	Almost Always	Sometimes	Not Yet/ Almost Never	(N)
7. Exhibits book-handling skills.	90	9	1	(8761)	89	10	2	(7462)	89	9	1	(8002)	88	10	2	10,662
8. Reads environmental print.	73	23	4	(8738)	71	24	5	(7440)	71	24	5	(7995)	69	24	7	10,649
9. Responds to texts.	81	16	3	(8747)	80	17	3	(7457)	81	17	3	(7998)	78	17	5	10,644
10. Identifies letters in the alphabet	70	23	7	(8724)	67	25	9	(7439)	68	25	7	(7982)	69	22	9	10,626
11. Recognizes that there is a relationship between letters and sounds.	56	30	14	(8743)	52	31	18	(7448)	53	32	15	(7986)	55	27	17	10,656
12. Recognizes that written spellings represent spoken words.	71	21	7	(8748)	69	22	9	(7462)	70	23	7	(8001)	67	22	11	10,661
13. "Reads" simple books.	61	25	14	(8750)	59	26	15	(7453)	60	27	13	(7995)	59	24	17	10,635
14. Scribbles with intended meaning.	68	23	9	(8747)	64	26	10	(7434)	66	24	10	(7985)	72	19	8	10,657
15. Uses some letters in writing.	65	23	12	(8747)	61	24	15	(7471)	64	24	13	(7996)	64	22	14	10,650
16. Uses letter-sound correspondence to write.	27	28	45	(8738)	25	27	48	(7446)	27	27	45	(7984)	29	24	46	10,638
17. Uses a variety of resources to facilitate writing.	48	32	20	(8723)	43	34	23	(7450)	46	33	21	(7996)	47	30	23	10,633
18. Shares writing with others.	66	26	8	(8742)	62	28	10	(7466)	64	27	9	(8000)	64	24	12	10,646
19. Recognizes first name in print.	94	5	1	(8749)	94	5	1	(7467)	94	4	1	(8005)	94	5	2	10,660

	2001-2002				2002-2003				2003-2004				2004-2005			
	Almost Always	Sometimes	Not Yet/ Almost Never	(N)	Almost Always	Sometimes	Not Yet/ Almost Never	(N)	Almost Always	Sometimes	Not Yet/ Almost Never	(N)	Almost Always	Sometimes	Not Yet/ Almost Never	(N)
—Mathematical/Physical Knowledge																
1. Classifies objects used in daily experiences or identifies similarities and differences.	85	14	1	(8752)	84	14	2	(7473)	84	15	1	(7994)	82	16	3	10,652
2. Writes some numbers.	61	25	15	(8745)	57	26	17	(7470)	61	25	14	(8003)	59	24	17	10,640
3. Uses numerical relationships to solve problems in daily life.	71	22	6	(8753)	70	23	7	(7476)	71	23	6	(8000)	66	24	10	10,624
4. Orders things according to relative differences.	76	21	4	(8753)	73	23	4	(7471)	74	22	4	(8001)	71	23	6	10,654
5. Makes one-to-one correspondence	81	16	3	(8762)	79	17	4	(7478)	81	16	3	(8009)	82	13	4	10,661
6. Determines “same,” “more than,” and “less than” by comparing.	77	19	4	(8759)	76	20	4	(7474)	77	19	3	(8007)	73	21	7	10,657
7. Uses spatial relationships in solving mathematical problems.	83	15	2	(8761)	82	15	3	(7470)	82	16	2	(8003)	79	17	4	10,655
8. Shows understanding of sequence of daily events.	88	10	2	(8758)	86	12	2	(7468)	87	12	1	(8005)	86	12	2	10,657
9. Experiments with objects to produce effects.	71	24	4	(8752)	70	25	5	(7463)	70	25	4	(8000)	68	25	7	10,638
10. Explains own actions in manipulating objects.	72	23	5	(8757)	71	23	6	(7473)	71	24	5	(8001)	69	23	8	10,636

	2001-2002				2002-2003				2003-2004				2004-2005			
	Almost Always	Sometimes	Not Yet/ Almost Never	(N)	Almost Always	Sometimes	Not Yet/ Almost Never	(N)	Almost Always	Sometimes	Not Yet/ Almost Never	(N)	Almost Always	Sometimes	Not Yet/ Almost Never	(N)
— Working with Others																
1. Uses adults as resources.	86	13	1	(8766)	84	15	1	(7476)	85	14	1	(8020)	85	14	2	10,664
2. Initiates conversation with familiar adults.	84	14	2	(8767)	83	15	2	(7475)	82	15	2	(8016)	82	15	3	10,653
3. Works cooperatively with others in a give-and-take manner.	73	25	2	(8767)	70	27	2	(7473)	71	26	3	(8019)	71	26	3	10,652
4. Uses peers as resources.	75	22	3	(8762)	72	25	3	(7468)	73	23	3	(8011)	72	24	5	10,642
5. Shares resources with others.	76	22	2	(8741)	74	24	2	(7458)	75	23	2	(7983)	74	24	3	10,627
6. Shows sensitivity and respect for others.	75	22	4	(8756)	72	24	4	(7474)	72	24	4	(8016)	72	24	5	10,653
7. Suggests appropriate solutions to conflicts.	60	32	8	(8755)	56	35	9	(7452)	57	34	8	(8003)	55	33	12	10,631
— Learning to Learn																
1. Shows curiosity and interest.	90	9	1	(8767)	89	10	<1	(7476)	89	10	1	(8021)	89	10	<1	10,660
2. Explores and tries new things.	86	13	1	(8763)	84	15	1	(7476)	85	14	1	(8015)	84	15	1	10,661
3. Takes responsibility for belongings.	84	15	2	(8769)	82	17	2	(7476)	81	18	1	(8017)	82	16	2	10,664
4. Makes choices.	91	9	1	(8765)	89	11	1	(7476)	90	10	1	(8008)	89	10	<1	10,664
5. Stays focused and productive while playing/ working independently.	79	19	2	(8767)	76	21	2	(7475)	77	21	2	(8020)	75	21	3	10,661
6. Stays focused and productive while playing/working in a group.	72	25	3	(8764)	70	27	3	(7475)	70	27	3	(8016)	68	28	4	10,663

	2001-2002				2002-2003				2003-2004				2004-2005			
	Almost Always	Sometimes	Not Yet/ Almost Never	(N)	Almost Always	Sometimes	Not Yet/ Almost Never	(N)	Almost Always	Sometimes	Not Yet/ Almost Never	(N)	Almost Always	Sometimes	Not Yet/ Almost Never	(N)
7. Shows pride in accomplishments.	92	8	1	(8759)	91	9	1	(7473)	91	9	1	(8010)	91	8	1	10,658
8. Copes with frustrations and failure.	68	27	5	(8756)	64	30	5	(7470)	65	30	5	(8002)	64	29	6	10,656
9. Talks about what he or she is learning.	77	19	3	(8763)	75	21	4	(7470)	76	20	4	(8007)	75	19	5	10,662

	2001-2002		2002-2003		2003-2004		2004-2005	
	% Yes	(N)	% Yes	% Yes	(N)	(N)	% Yes	(N)
— Physical Development								
1. Is physically active.	99	(7460)	99	(7987)	99	(8752)	99	10,661
2. Demonstrates gross motor skills.	99	(7459)	99	(7982)	99	(8750)	98	10,650
3. Demonstrates fine motor skills.	95	(7457)	96	(7983)	95	(8744)	94	10,638
4. Appears to be healthy.	99	(7450)	99	(7988)	99	(8742)	99	10,647
5. Practices personal hygiene.	98	(7457)	97	(7983)	98	(8738)	97	10,643
— Conventional Knowledge								
1. Tells first and last name.	98	(7456)	98	(8005)	97	(8749)	96	10,659
2. Knows how to contact an adult family member.	47	(7413)	47	(7933)	46	(8705)	43	10,528
3. Knows age.	98	(7460)	98	(8001)	98	(8745)	96	10,651
4. Knows birth date.	62	(7428)	66	(7956)	65	(8713)	62	10,550

	2001-2002		2002-2003		2003-2004		2004-2005	
	% Yes	(N)	% Yes	% Yes	(N)	(N)	% Yes	(N)
5. Recognizes some basic shapes.	97	(7466)	97	(8000)	97	(8738)	96	10,640
6. Identifies basic colors.	98	(7472)	98	(8013)	97	(8744)	96	10,649
7. Counts by rote to 10.	95	(7468)	96	(8008)	95	(8740)	93	10,637
8. Recognizes and names some numbers to 10.	88	(7455)	91	(8000)	90	(8739)	88	10,618